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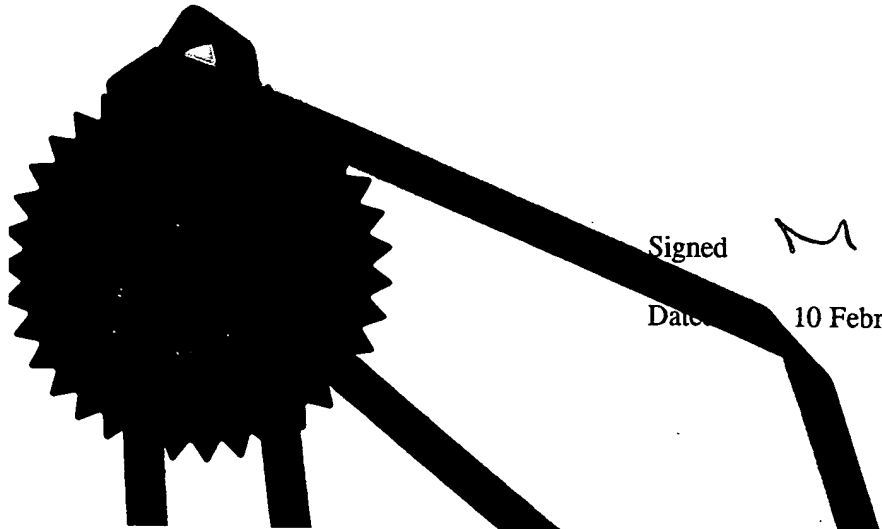
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3. Full name, address and postcode of the or of each applicant *(underline all surnames)*Hewlett-Packard Company
3000 Hanover Street
Palo Alto
California 94304 USAPatents ADP number *(if you know it)*

496588004

If the applicant is a corporate body, give the country/state of its incorporation

Delaware USA

4. Title of the invention

Information Capture and Processing

5. Name of your agent *(if you have one)*

LAWRENCE, Richard Anthony

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*Hewlett-Packard Limited
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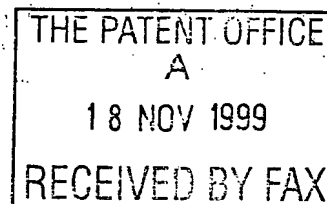
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Description

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TITLE

Information Capture and Processing

DESCRIPTION

This invention relates to computer systems and is more particularly concerned with information capture and processing.

The internet has become a popular way for many people to amass information and to trade. Much of the information on the internet is accessible to anybody at any time of day, and ordering products and services through the internet can be performed at any time of day. Most such people do, however, still read paper publications and may want to follow up something which they have seen on paper, for example obtain more information about a product advertised in a magazine, or send copies of an article in a business journal to their colleagues. This can be done using the internet, but there are two problems. First, the person needs to remember to do it at a time when they have the facility to do it. Second, they need to find the relevant information on the internet. The present invention is concerned with tackling these problems.

In accordance with a first aspect of the present invention, there is provided a computer system comprising: capturing means for capturing an image of a paper document to produce captured image information; selecting means for enabling a user to select one of a plurality of options in relation to that captured image information; a document database storing image information relating to a plurality of documents and for each document information relating to action which can be taken in relation to that document; and processing means for matching the captured image information with the stored image information for at least one of the documents and determining the respective action information, and for processing the determined action information and the user-selected option to produce a computer instruction as to action to be taken. (In this specification, the term "paper document" is intended to have a wide meaning and to include loose paper, a magazine, a book, a poster, etc.)

The user can therefore capture the required information at the time of reading the document, and the system then, perhaps at a later convenient time, establishes a link between the captured information and corresponding "electronic" information. Examples of types of article or advertisement, the respective action information which might be stored by the document database, the respective valid selectable options, and the respective computer instructions are as follows:

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Type	Action Information	Option	Computer Instruction
Newspaper article	URL of newspaper article, search terms	View	Browse URL
		Similar	Normal search request using search terms
		Follow-up	Ongoing search request using search terms
Product advertisement	URL of advertisement, URL of product specification, URL of supplier's order form, cost.	View	Browse URL of advertisement
		Follow-up	Browse URL of product specification
		Order	Send order to URL of supplier's order form
Book review	URL of book review, URL of supplier's order form, cost	View	Browse URL of book review
		Order	Send order to URL of supplier's order form
Business journal article	URL of journal article, search terms, cost	View	Browse URL of journal article
		Follow-up	Ongoing search request using search terms
		Re-print	E-mail to specified addresses

Preferably, the captured image information includes information from which textual and/or graphical content of the captured document can be determined and/or information from which font and/or layout and/or colour in the captured document can be determined and/or information from which a property of the paper of the captured document can be determined; and the processing means uses such information in the matching process.

Preferably, a user database is provided storing information about a plurality of users; and the processing means is operable to receive the stored information for the particular user and to use that information in producing the computer instruction. For example, when a product order is made, the instruction may include the shipping address and details of the bank account to be charged.

It is, of course, possible that the captured image information does not match the stored image information for any of the documents. In this case, however, the processing means is preferably operable to analyse the captured image information to determine whether it relates to a form (such as an enquiry form or an order form), and, if so: to determine at least one position where user information should be added to the form to complete the form; and to add the user information for the particular user to the captured image information to provide an image of the form completed with the user information in the determined position(s). The completed form can, for example, then be printed out and mailed to the advertiser or supplier, or faxed to them, or it can be transmitted completely electronically. (In this specification, the term "form" is intended to have a wide meaning and to include any suitable means of expressing intent.)

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It will be appreciated that this latter feature may be provided independently of the first aspect of the invention. Therefore, in accordance with a second aspect of the invention, there is provided a computer system comprising: capturing means for capturing an image of a paper form to produce captured image information; a user database storing information about a plurality of users; processing means for analysing the captured image information to determine at least one position where user information should be added to the form to complete the form, for selecting the stored user information for one of the users and for adding the selected user information to the captured image information to provide an image of the form completed with the user information in the determined position(s).

With either of these aspects of the invention, the system preferably further comprises means for storing the captured image information (and if applicable the user selected option), more preferably for a plurality of images, for subsequent supply to the processing means. Processing can therefore be deferred until a convenient time.

In accordance with third and fourth aspects of the present invention, there are provided corresponding methods of operation of a computer system.

A specific embodiment of the present invention will now be described, purely by way of example, with reference to the accompanying drawing, in which:

- Figure 1 shows an image capture device, document and writing implement;
- Figure 2 is a schematic block diagram of the image capture device of Figure 1; and
- Figure 3 is a schematic block diagram of a system including the image capture device of Figure 1, a user's computer, the internet and a number of internet web sites.

Referring to Figures 1 and 2, in the embodiment of the invention, the hardware of an image capture device 10 is provided by a CapShare (trade mark) e-copier, for example model 920, produced by Hewlett-Packard Company, and this known hardware is configured to operate in a new manner.

The image capture device 10 is a battery-powered, pocket-sized, hand-held device which can be moved (or "swiped") across a paper document 12 to read information from it. This information may be pre-printed matter and/or information which has been written on the document 12 by a user with a pen or pencil 14. The information may include text, line-art, graphics, barcodes, etc. In the preferred embodiment, the read information is sufficient to

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enable physical properties (such as fibre size and pattern) of the paper of the document 12 to be determined, together with layout, fonts and colours of the printed matter.

Referring in particular to Figure 2, the image capture device 10 is powered by batteries 16 and comprises a processor 18 and associated volatile and non-volatile memory 20. An image sensor 22 captures the information provided by the document 12 as the device 10 is swiped across the document 12, processes the captured information and stores the processed information in the memory 20. A number of user-operable keys 24 are provided to enable the user to control the device 10 and enter additional information. A liquid crystal display 26 is provided to display messages to the user and also the captured image. The device 10 also includes an infra-red transmitter 28 which can be used to transmit the stored information to a co-operating computer, such as a PC, or printer. The features of the device 10 described in this paragraph and the previous paragraph are standard features of the CapShare device and are described in more detail in the product and patent literature.

In the embodiment of the invention, the image capture device 10 described above with reference to Figures 1 and 2 is used in a system which will now be described also with reference to Figure 3. In Figure 3, the image capture device 10 is shown, together with the user's PC 30 which has an infra-red receiver 32 which can communicate with the infra-red transmitter 28 of the image capture device 10. The PC 30 is connected, or connectable, to the internet 34 in a conventional fashion, and the internet 34 includes a database web-site 36.

At the time of information capture, the image capture device 10 is configured to present the user, *via* the display 26, with options for action to be taken in relation to the information. The user then selects a desired option or options (hereinafter referred to as "option" for simplicity) using the keys 24, and the selected option for that information is stored in the memory 20. At a later convenient time, the information which has been captured, processed and stored in the device 10 is transmitted, together with the selected action, to the PC 30 *via* the infra-red transmitter 28 and receiver 32. The PC 30, database web-site 36, other web-sites 38 and the user then interact in order to bring about the action which was selected by the user at the time of capture in relation to the information which was captured.

The database web-site 36 has a user database which includes details of each user of the system, such as their name, e-mail address, shipping address, bank and/or credit card account (hereinafter "bank account") and a list of publications in which the user has registered an interest. Also, as the user participates in the system, it builds up, in the user database, a profile of that user.

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The database web-site 36 also has a publications database. For publications such as magazines and newspapers which are provided in paper and electronic form, the publications database includes, for each publication, the properties of the paper (such as fibre size and pattern) on which the paper form is usually published, and the colour and font normally used.

- 5 Also, for each article or advertisement in such a publication, the publications database includes the electronic form of that article or advertisement. Furthermore, for each article, advertisement or other material, the publications database includes respective action information. This may include, for example:

- An abstract of that article or advertisement.
- 10 ➤ In the case of a news article, the URL of an electronic copy of that article, search terms to enable a normal search or a follow-up search to be performed, and cost data for the follow-up search service.
- In the case of, say, a book or theatrical review, the URLs of the review and of a supplier of the book or the theatre box office, cost information, and a list of parameters
15 required in order to purchase the book or theatre tickets.
- In the case of an advertisement for a product; the URLs of the advertisement, of a corresponding product specification, and of the supplier of that product, cost information, and a list of parameters required in order to purchase the product;

20 Returning to the time of image capture, examples of the options which the user may be able to select, and examples of the ways in which the user might use these options are:

- "View". For example, the user might see an advertisement for a conference that may be of interest. The user swipes the image capture device 10 across the advertisement 12 and then presses one of the keys 24 designated "View". The intention is that an electronic form of the advertisement will automatically be called up later on the web
25 browser of the user's PC 30 so that the user is reminded about the conference and can consider further whether to attend it.
- "Re-print". For example, the user reads an article which they wish a number of their colleagues to see. Mindful of potential copyright infringement issues if the user were to copy the article, the user swipes the image capture device 10 across part of the article
30 12 sufficient for the article to be identifiable and then presses one of the keys 24 designated "Re-print". The intention is that the user will automatically be reminded

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later by the user's PC 30 of the article and prompted for a list of the e-mail addresses of the colleagues to which an electronic form of the article should be sent. This electronic form of the article is then sent to those e-mail addresses, either from the database web-site 36, or in response to an instruction from the database web-site 36 to another web-site 38. A pre-arranged fee can be charged, for example on a per copy basis, to the user's bank account as detailed in the user database, and the income can be distributed in a predetermined manner between the proprietors of the database web-site 36 and the publishers of the article.

• "Order". For example, the user reads an advertisement in a magazine for a product which they wish to purchase. The user swipes the image capture device 10 across the advertisement 12 and then presses one of the keys 24 designated "Order". The intention is that the user will automatically be reminded later by the user's PC 30 of the potential order and prompted to confirm/amend it. The prompt may be accompanied at that stage by a prompt for further particulars, such as the number of the products to be supplied and/or special requirements. Alternatively, the paper form of the advertisement may include portions for the user to complete, such a tick boxes, with the intention that, prior to image capture, the user completes these portions using the pen or pencil 14. These markings are interpreted by the database web-site so as to particularise the order automatically prior to the confirmation/amendment prompt. Once the order has been confirmed, subject to any desired amendment, the order is transmitted to the web-site of the supplier of the product, together with details of the user including the shipping address and bank account. The supplier can then fulfil the order and obtain payment, and the income can be distributed in a predetermined manner between the proprietors of the database web-site 36, the suppliers of the product and the publishers of the magazine from which the advertisement was captured.

As another example of the "Order" option, the user reads a review of a book and decides that they may wish to purchase the book. The user swipes the image capture device 10 across the book review 12 and then presses that one of the keys 24 designated "Order". The intention is that the user will automatically be reminded later by the user's PC 30 of the potential order and prompted to confirm/amend it. Again, the prompt may be accompanied at this stage by a prompt for further particulars, such as the number of the books to be supplied and/or special requirements, such as a hardback or paperback copy. Once the order has been confirmed, subject to any desired amendment, the order is transmitted to the web-site of the supplier of the book, together with details of the user including the shipping address and bank account. The supplier

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can then fulfil the order and obtain payment, and the income can be distributed in a predetermined manner between the proprietors of the database web-site 36, the suppliers of the book and the publishers of the book review.

- 5 • "Follow-up". For example, the user might read a new-breaking article in a newspaper on a topic of which they wish to be kept appraised. The user swipes the image capture device 10 across part of the article 12 sufficient for the article to be identified and then presses one of the keys 24 designated "Follow-up". The intention is that the user will automatically be reminded later by the user's PC 30 of the potential follow-up order and prompted to confirm/amend it. The prompt may be accompanied at this stage by a
10 prompt for further particulars, such as the period of time over which the user is to be kept appraised, and whether the appraisal is to be confined to further articles on that topic in the same newspaper or is to include other sources. Once the order has been confirmed, subject to any desired amendment, it is logged in the database web-site 36. Then, as further publications are added to the database web-site 36, they are searched to
15 determine whether any articles in them fall within the scope of the follow-up order. If so, those articles are e-mailed to the user. A pre-arranged fee can be charged, for example on a per order basis and/or on a per result basis, to the user's bank account as detailed in the user database, and the income can be distributed in a predetermined manner between the proprietors of the database web-site 36, the publishers of the
20 original newspaper and any other publishers who provide a result.
- 25 • "Similar". For example, the user reads a sports report of the latest Formula 1 grand prix motor race and wishes to give their child a picture of the winning driver. The user swipes the image capture device 10 across the sports report 12 and then presses one of the keys 24 designated "Similar". The intention is that a web search will automatically
30 be performed later, on the basis of the captured sports report, and the results of the search will be displayed in a conventional manner on the web browser of the user's PC 30 as a list of web pages and abstracts of them. The user can then select a web page which may link to an electronic copy of the required picture or a web page through which a paper poster of the required picture can be ordered on-line. A pre-arranged fee can be charged for this service, for example on a per search basis and/or on a per picture download basis and/or on a poster-ordered basis, to the user's bank account as detailed in the user database, and the income can be distributed in a predetermined manner between the proprietors of the database web-site 36, the publishers of the original sports report and the providers of the electronic picture or paper poster.

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In order to provide the functions described above, the system shown in the drawings operates as follows. First, at the image capture stage:

At the time of image capture, the information on the document 12 is read by the image sensor 22, is stitched together by the processor 18 and is stored in the memory 20, all in a known manner. The information may be processed by the processor 18 to OCR any text, vectorise any line art, compress any graphics and decode any bar-codes. (Such processing may, however, be done at a later stage, for example by the user's PC 30 or by the database web-site 34.) The stored information is sufficient to enable the layout, fonts and colours of the printed or written matter and the fibre size and pattern of the paper of the document 12 to be determined.

Immediately after image capture, the user is presented with the options View, Re-print, Order, Follow-up and Similar. The user selects one of the options by pressing an appropriate one of the keys 24, and the selected option is stored in the memory 20.

The image capture device is then made ready to capture a further image.

Then, during a docking stage at a later convenient time, when the user places the image capture device 10 in the vicinity of the PC 30:

The user presses one of the keys 24 to instigate transfer of the information. The information stored in the memory of the image capture device 10 is transmitted *via* the infra-red transmitter 28 and receiver 32 to the PC 30.

The web-browser application of the PC 30 is then started, and the PC 30 is logged into the database web-site 36 on the internet 34.

Then, for each set of image capture information received by the PC 30, the PC 30, database web-site 36, other web-sites 38 and the user interact as follows:

The PC 30 may perform further processing of the received information prior to interacting with the database web-site 36.

The information, including the selected option, is then transmitted *via* the internet 34 to the database web-site 36.

The database web-site 36 then processes the received information in order to attempt to match it to a particular part of the electronic versions of the publications stored in the database or a particular advertisement. The search for a match is made firstly through

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the publications in which the user has registered an interest, but may also include other well known possibilities, or indeed all of the publications and advertisements stored by the publications database. For each match, the respective action information is extracted and is transmitted *via* the internet 34 to the user's PC. Alternatively, each match may be relayed to another web-site 38, for example of the publisher of the publication or the supplier of the advertised product, and this web-site may then send to the user's PC the respective action information.

Upon receipt of this information by the user's PC 30, it is presented to the user through the web browser application. If there is more than one match, the user can select one or more of them. The user can confirm or amend the selected option made at the time of capture. The browser can also inform the user of an error if the selected option at the time of capture is incompatible with the action information. (For example, if the user had captured a newspaper article and selected the "order" option, but if the action information for the electronic form of the newspaper article permitted merely "view", "re-print", "follow-up" and "similar", an error would be displayed.)

Once the user has confirmed their requirements, those requirements are sent *via* the internet 34 as an instruction to the appropriate web-sites 36,38 so that the user's requirements can be fulfilled, any required payment can be obtained, and any distribution of income can be performed.

In addition to performing the functions described above, the database web-site also builds up a profile of each user based on the information which the users have requested. For example, the profile may include details of particular types of product in which the user has shown an interest. Then, for example, when a new product is being launched, the manufacturer of the new product can request the proprietors of the database web-site 36 to advertise the product to any user who has shown an interest in that type of product over a prescribed time period. In particular, interest lists may be generated. These lists may then be used in two ways. First, the database web-site 36 aggregates enquiries together and then advertises to the 'trade' that it has a number of interested customers. The database web-site 36 does not disclose the identities of the interested customers and all advertisements are routed to the interested customers *via* the database web-site 36. Second, the database web-site 36 advises the existence of an interested customer to potential suppliers who may wish to advertise to them. Again, a potential supplier cannot contact the interested customer direct, and any advertisements are passed *via* the database web-site 36. Therefore, the system provides for highly directed advertising and qualified lists of customers.

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It will be appreciated that many modifications and developments may be made to the embodiment of the invention described above. For example, as the available processing power and storage capacity of computer equipment increase, it may be possible to include at least some of the functionality of the database web-site 36 in the user's PC 30 or indeed in the image capture device 10.

In the embodiment described above, the printed document need not necessarily be specially adapted in order to enable matching to be carried out between the captured image information and the information stored by the database web-site 36. However, to facilitate identification, the printed document may include additional information, such as a set of identification characters printed in a special way, a bar-code or the like. Indeed, the identification characters could be an extended URL which points to the database web-site 36 and includes a unique identifier for the document in question. The unique identifier may have a checksum so that a capture error can be identified at the time of capture, or indeed may be an error correcting code.

In the embodiment of the invention described above, a particular form of hand-held image capture device 10 is employed which can be used at any convenient time and place. It should be noted, however, that other forms of image capture device may be employed, such as hand scanners, text readers, bar-code readers and digital cameras. For a user who does not require portability, the functionality of the image capture device may instead be provided by a desktop scanner and the user's PC.

In the embodiment of the invention described above, the image capture device 10 has physical keys with which the user can select required options. User input can, however, be obtained in other ways, for example with a touch-sensitive screen or using voice recognition.

In the embodiment of the invention described above, the image capture device 10 is docked with the user's PC 30 in order to download the captured information and selected option to the PC 30. In a modification, the image capture device 10 may be arranged to communicate with the database web-site 26 without the intermediary of a user's PC 30, for example using a mobile or conventional telephone network.

In the embodiment described above, the end result is achieved by electronic means, for example web pages are displayed on a PC, or orders are placed electronically. There are other possibilities. For example, the database web-site 36 might identify captured information, for which the "follow-up" option has been selected by the user, as relating to an enquiry form (for example because of its general layout and the inclusion of the words "Send me more details" or

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the like). Using OCR and other algorithms, the database web-site 36 would identify how the form should be completed, for example with the user's name and address. The database web-site 36 would then complete the enquiry form and, optionally after confirmation by the user, print it out, ready for mailing or faxing to the advertiser. As another example, the database web-site 36 might identify captured information, for which the "order" option has been selected by the user, as relating to an order form. Using OCR and other algorithms, the database web-site 36 would identify how the form should be completed, for example with the user's name, address and bank account details. The database web-site 36 would then complete the order form and, optionally after confirmation by the user, print it out, ready for mailing or faxing to the supplier. It should be noted that, in these two examples, the database web-site 36 does not need to have prior knowledge of the precise content of the forms. Instead, it has sufficient knowledge to be able to recognise them as an enquiry form and an order form respectively and to be able to complete them in an appropriate manner. It will be appreciated that these features may be provided in a system which does not have prior knowledge of the precise content of various documents, or in a system which attempts to match captured information with stored information, and which, if no match is found, then determines if the captured information appears to relate to a form, and if so attempts to complete the form.

It should be noted that the embodiment of the invention has been described above purely by way of example and that many other modifications and developments may be made thereto within the scope of the present invention.

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CLAIMS

1. A computer system comprising:
capturing means (10) for capturing an image of a paper document (12) to produce captured image information;
selecting means (24) for enabling a user to select one of a plurality of options in relation
5 to that captured image information;
a document database (36) storing image information relating to a plurality of documents and for each document information relating to action which can be taken in relation to that document; and
processing means (30,36) for matching the captured image information with the stored
10 image information for at least one of the documents and determining the respective action information, and for processing the determined action information and the user-selected option to produce a computer instruction as to action to be taken.
2. A system as claimed in claim 1, wherein:
the captured image information includes information from which textual and/or
15 graphical content of the captured document can be determined; and
the processing means uses that textual and/or graphical content in the matching process.
3. A system as claimed in claim 1 or 2, wherein:
the captured image information includes information from which font and/or layout and/or colour in the captured document can be determined; and
20 the processing means uses that font and/or layout and/or colour in the matching process.
4. A system as claimed in any preceding claim, wherein:
the captured image information includes information from which a property of the paper of the captured document can be determined; and
25 the processing means uses that paper property in the matching process.

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5. A system as claimed in any preceding claim, wherein:

a user database (36) is provided storing information about a plurality of users; and
the processing means is operable to receive the stored information for the particular user and to use that information in producing the computer instruction.

5 6. A system as claimed in claim 5, wherein:

the processing means is operable, in the case where the captured image information does not match the stored image information for any of the documents, to analyse the captured image information to determine whether it relates to a form, and, if so:

10 to determine at least one position where user information should be added to the form to complete the form; and

to add the user information for the particular user to the captured image information to provide an image of the form completed with the user information in the determined position(s).

15 7. A computer system comprising:

capturing means (10) for capturing an image of a paper form (12) to produce captured image information;

a user database (36) storing information about a plurality of users;

20 processing means (36) for analysing the captured image information to determine at least one position where user information should be added to the form to complete the form, for selecting the stored user information for one of the users and for adding the selected user information to the captured image information to provide an image of the form completed with the user information in the determined position(s).

25 8. A system as claimed in any preceding claim, further comprising means (20) for storing the captured image information (and if applicable the user selected option) for subsequent supply to the processing means.

9. A system as claimed in claim 8, wherein the storing means is operable to store the captured image information (and if applicable the user selected option) relating to a plurality of images, for subsequent supply to the processing means.

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10. A computer system substantially as described with reference to the drawing.
11. A method of operation of a computer system comprising the steps of:
capturing an image of a paper document (12) to produce captured image information;
noting a selection by a user of one of a plurality of options in relation to that captured
5 image information;
storing image information relating to a plurality of documents and for each document
information relating to action which can be taken in relation to that document; and
matching the captured image information with the stored image information for at least
one of the documents and determining the respective action information; and
10 processing the determined action information and the user-selected option to produce a
computer instruction as to action to be taken.
12. A method as claimed in claim 11, wherein:
the captured image information includes information from which textual and/or
graphical content of the captured document can be determined; and
15 that textual and/or graphical content is used in the matching step.
13. A method as claimed in claim 11 or 12, wherein:
the captured image information includes information from which font and/or layout
and/or colour in the captured document can be determined; and
that font and/or layout and/or colour is used in the matching step.
- 20 14. A method as claimed in any of claims 11 to 13, wherein:
the captured image information includes information from which a property of the
paper of the captured document can be determined; and
that paper property is used in the matching process.
- 25 15. A method as claimed in any of claims 11 to 14, further including the steps of:
storing information about a plurality of users; and
using that information for the particular user in producing the computer instruction.

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16. A method as claimed in claim 15, further including the steps, in the case where the captured image information does not match the stored image information for any of the documents, of analysing the captured image information to determine whether it relates to a form, and, if so:

5 determining at least one position where user information should be added to the form to complete the form; and

adding the user information for the particular user to the captured image information to provide an image of the form completed with the user information in the determined position(s).

10 17. A method of operation of a computer system comprising the steps of:
capturing an image of a paper form (12) to produce captured image information;
storing information about a plurality of users;
analysing the captured image information to determine at least one position where user
information should be added to the form to complete the form;

15 selecting the stored user information for one of the users; and
adding the selected user information to the captured image information to provide an
image of the form completed with the user information in the determined position(s).

18. A method as claimed in any of claims 11 to 17, further comprising the step of storing
the captured image information (and if applicable the user selected option) for subsequent
20 processing.

19. A method as claimed in any of claims 11 to 17, further comprising the step of storing
the captured image information (and if applicable the user selected option) relating to a plurality
of images, for subsequent supply to the processing means.

20. A method of operation of a computer system substantially as described with reference
25 to the drawing.

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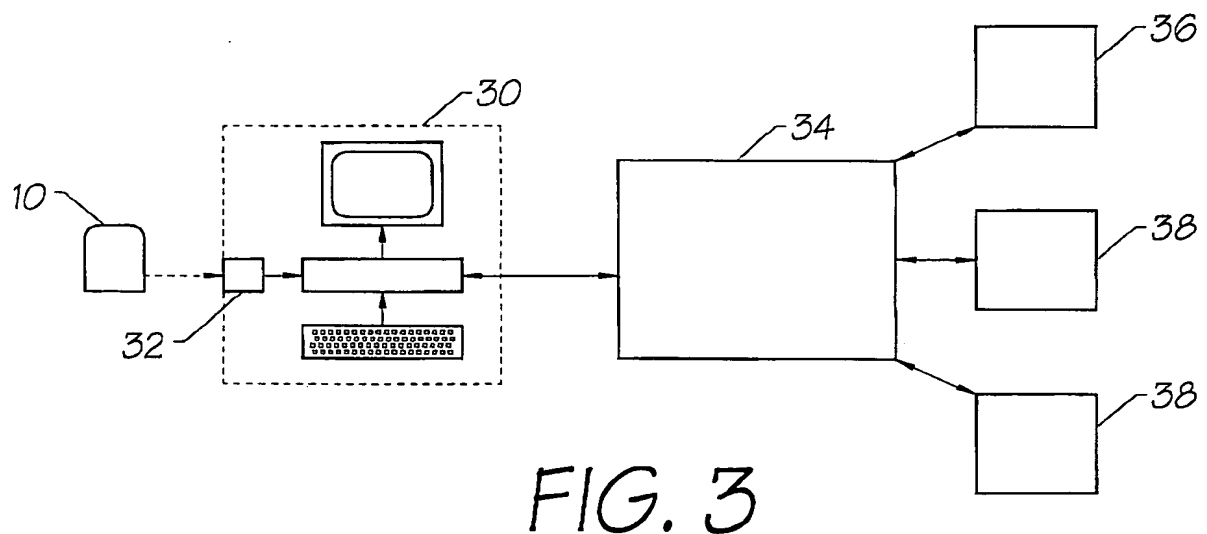
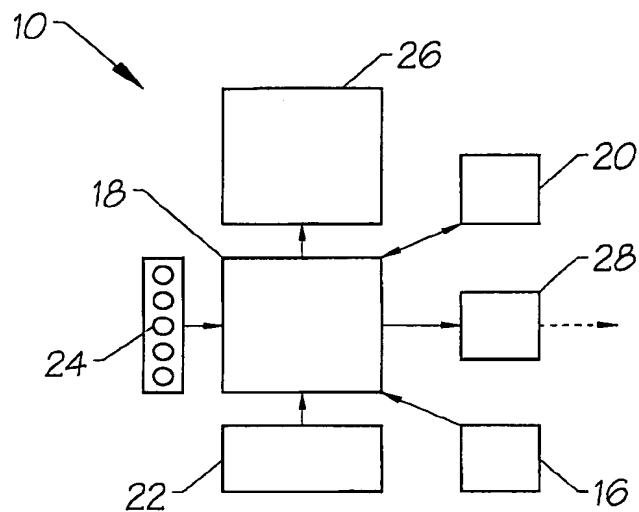
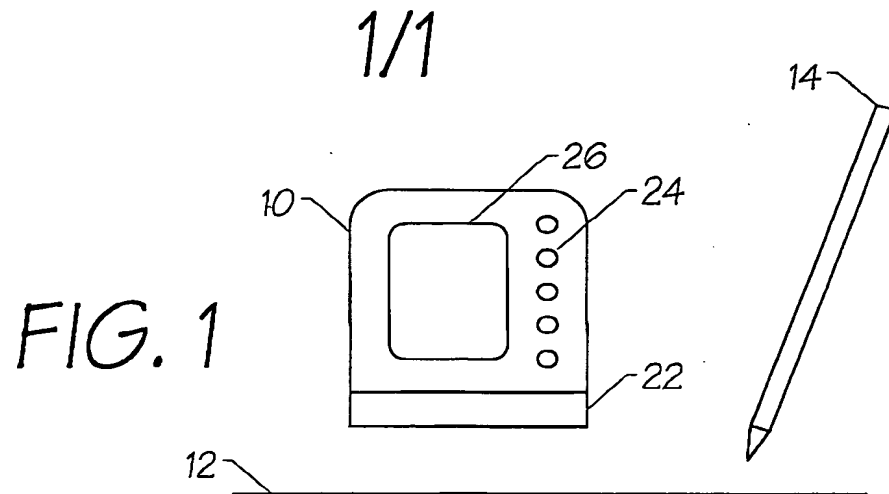
TITLE

Information Capture and Processing

ABSTRACT

A computer system comprises an image capture device (10) for capturing an image of a paper document (such as a newspaper article or advertisement) to produce captured image information, and keys or the like for enabling a user to select one of a plurality of options (such as "view" or "order") in relation to that capture information. The system also includes a document database (36) storing image information relating to the contents of a plurality of documents and, for each document, information relating to action which can be taken in relation to that document, and a processor system (30,36) for matching the captured image information with the stored image information for at least one of the documents and determining the respective action information, and for processing the determined action information and the user-selected option to produce a computer instruction as to action to be taken (such as load the newspaper article into the PC's web browser, or "electronically" order the product).

Figure 3



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